

Version with marks to show changes

Claims 34, 36, 37, and 49 have been cancelled without prejudice.

1. (twice amended) A method comprising

identifying a position in a space associated with a hierarchy of nodes, [the hierarchy comprising levels and locations within the levels, the space having at least two dimensions,] each [node] of the nodes being uniquely identifiable within the [space] hierarchy by a node level value identifying the node's level in the hierarchy and a node-in-level value identifying the node's location uniquely among nodes in that level,

the space associated with the hierarchy of nodes having at least two dimensions, the position in the space being identified by a depth value comprising the [a] node level value and an offset from that node level value and a position-in-level value comprising the [a] node-in-level value and an offset from the node-in-level value.

6. (twice amended) A method comprising

dividing an area on a display into subareas, each position in the area belonging to one of the subareas;

[allocating nodes of a hierarchy of nodes respectively to] each of the subareas associated with a node in the hierarchy of nodes;

[displaying, in the area, a node representation for each allocated node, the node representation occupying the entire subarea to which the node is allocated,] the entire area of each of the subareas representing the associated node at a given time, and

receiving an indication of an action to be taken, the indication being received at any arbitrary position within the area of the display at the given time, the indication being unambiguously associated with the node associated with the subarea that contains the arbitrary position.

8. (twice amended) The method of claim 7 in which each of the levels is represented as a band of node representations in the area, nodes represented in one band have a parent-child relationship with nodes represented in an adjacent band, and, within a band

representing one level, the area is divided so that the subarea allocated to a parent node in that one level has the same extent along the band as the sum of the extents of the subareas in the adjacent band representing another level that are allocated to the children of the parent node.

9. (amended) [A] The method of claim 1, 6, or 15 also comprising
for a node in the hierarchy of nodes,

rendering [a container associated with the node] an outline and a representation of node-specific information [associated with the node], the [container] outline having dimensions that change with an amount of space dynamically allocated to the node based on a changing focus in the hierarchy, the representation having unchanging dimensions, drawing the [container] outline and the representation on a display, and when the focus changes,

re-rendering the [container] outline with updated dimensions [and drawing the container on the display], and

without re-rendering, copying the rendered representation to a new location.

12. (twice amended) [A] The method of claim 1, 6, or 15 also comprising
receiving information indicating [a] current displacement of a user input device within a two-dimensional frame of reference from a zero position, and
translating the received information indicating the current [an amount of indicated] displacement in at least one of the dimensions to a rate of change of position of a user's focus in a display of a portion of the hierarchy [corresponding to a user's focus].

15. (twice amended) A method comprising
displaying a representation of a portion of a hierarchy of nodes to a user,
enabling a user to navigate in the displayed representation of the portion of the hierarchy only by a first type of user-interface action performed only outside of the displayed representation of the portion of the hierarchy and allowing, only by a second type of user-interface action only within the displayed representation of the portion of the hierarchy, the selection of any [currently represented] node in the portion of the hierarchy of nodes of which a representation is being displayed,

reporting each selection [selected node] to an application to invoke node-specific behavior in the application, the node-specific behavior being other than [generating a] affecting

the representation of the hierarchy, and the application being other than the [the graphical user interface used to represent] representation and navigation of the hierarchy.

18. (twice amended) [A] The method of claim 1, 6, or 15 also comprising displaying a representation of a portion of the [a] hierarchy of nodes, providing a software emulation of a return-to-center input device for enabling a user to navigate the hierarchy, and

in response to the user manipulating a non-return-to-center input device to indicate an intended manipulation of the emulation for navigating the hierarchy, treating the user's manipulation as a manipulation of the return-to-center input device.

26. (twice amended) [A] The method of claim 1, 6, or 15 also comprising at a client device, displaying information about a portion of the [a] hierarchy of nodes, the portion changing as a focus position changes,

fetching, from a server, as a result of no user interaction other than navigation, information about portions of the hierarchy that are approaching view, including information not previously fetched about [child] descendant nodes of currently displayed nodes, and

representing each node as the displayed portion of the hierarchy changes to include the node.

27. (twice amended) [A] The method of claim 1, 6, or 15 also comprising receiving at a server a request from a client for information about the [a] hierarchy,

in response to the request, providing to the client information about only a portion but not all of the hierarchy, the portion including references to information about other portions of the hierarchy, and

determining the size of the portion to be provided to the client adaptively based on parameters for optimizing communication between the server and the client.

32. (twice amended) [A] The method of claim 1 or 6 also comprising an area that provides a navigational interface that permits continuous navigation, based on a user's continuous activation of a user interface device, of a hierarchy of nodes, the interface displaying information about a portion that is less than all of the hierarchy at one time,

the portion changing apparently continuously in response to the user's continuous activation of the user interface device.

33. (amended) The [web page] method of claim 32 in which the nodes comprise links to [other] web pages.

35. (amended) The [component] method of claims 1, 6, or 15 in which the nodes comprise links to web pages.

38. (amended) The [user interface] method of claim 1, 6, or 15 in which the hierarchy comprises a hierarchical function menu.

39. (amended) The [user interface] method of claim 1, 6, or 15 in which the hierarchy comprises a hierarchical file system.

40. (amended) The [user interface] method of claim 1, 6, or 15 in which the hierarchy comprises a document encoded in XML or an extension thereof.

41. (amended) The [user interface] method of claim 1, 6, or 15 in which the hierarchy comprises a hierarchical index constructed from a document, list, or table.

42. (amended) The [user interface] method of claim 1, 6, or 15 in which the hierarchy comprises an encoded hierarchy.

43. (twice amended) The [user interface] method of claim 1, 6, or 15 in which the [encoded] hierarchy comprises the Dewey Decimal System.

44. (amended) The [user interface] method of claim 1, 6, or 15 in which the hierarchy comprises categorized products.

45. (amended) The [user interface] method of claim 1, 6, or 15 in which the hierarchy comprises postal addresses or other location by geographic region.

46. (amended) The [user interface] method of claim 1, 6, or 15 in which the hierarchy comprises characters belonging to a character set to be selected for text entry.

47. (amended) The [user interface] method of claim 1, 6, or 15 in which the hierarchy comprises a corpus which is not hierarchical in its native form and upon which hierarchy has been imposed using a similarity-seeking technology.

48. (twice amended) [A] The method of claim 1, 6, or 15 also comprising
displaying a portion that is less than all of the [a] hierarchy at a browser,

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enabling a user to navigate continuously through levels and nodes of the hierarchy based on a user's continuous activation of a user interface device, the portion that is displayed changing apparently continuously with the user's continuous activation of the user interface device, and

 during navigation delivering portions of the hierarchy from a remote server to the browser in time to enable the continuous navigation.

50. (amended) The method of claim [49] 27 in which the server includes hardware or software.

51. (amended) The method of claim [49] 27 in which the server is remote from the client.

52. (amended) The method of claim [49] 27 in which the server resides on a different machine, separated by a network , from the machine on which the client resides.